

Cheryl Itkin, ORD - Presenter

What You Will Learn

- Importance of metadata
- The FGDC standard and geospatial metadata content
- Other applicable FGDC standards
- Agency WWW metadata system EIMS
 Environmental Information Management System
- What to look for in the metadata for QA purposes

Geospatial Metadata

• General metadata

Data about content, quality, condition and other characteristics of a product or process Provides information on availability, fitness for use, quality, access, and data transfer

• Geospatial metadata

Documentation that describes digital geospatial data

Importance of Metadata

- Maintain inventory of Agency's internal investments;
 contribute to a catalog or clearinghouse
- Provide information about the Agency's data holdings;
 provide meaning and value to data
- Provide information needed to process and interpret data
- Track lineage
- Aid in data transfer

Authorities and Guidance

- Executive Order 12906
- OMB Circular A-16
- Content Standard for Digital Geospatial Metadata (CSDGM), FGDC
- Spatial Data Transfer Standards (SDTS)
- EPA Locational Data Policy (LDP)
- EPA Facility Identification Data Standard
- EPA Latitude/Longitude Data Standard
- EPA Method Accuracy Description (MAD)
- ORD Science Information Management Coordination Board (SIMCorB)

Standards Infrastructure

- Federal Geographic Data Committee (FGDC)
- National Spatial Data Infrastructure (NSDI)
- International Standards Organization (ISO)
- Open GIS Consortium (OGIS)

Related FGDC Endorsed National Spatial Data Standards

- SDTS allows transfer of digital spatial data between software packages (FGDC-STD-001.1, 1999)
- Biological data profile of the Content Standard for Digital Geospatial Metadata
- Cadastral Data Content Standard
- Classification of Wetlands and Deep Water Habitats
- Vegetation Classification Standard
- Soils Geographic Data Standard
- Geospatial Positioning Accuracy Standard
- Content Standard for Digital Orthoimagery
- Content Standard for Remote Sensing Swath Data

History of FGDC Standards

- 1992 Work initiated through a geodata forum
- 1994 Executive Order 12906 "Standardized documentation of data" for NSDI
- 1994 Version (1) Content Standard for Digital Geospatial Metadata was endorsed
- 1998 Version (2) Content Standard for Digital Geospatial Metadata (FGDC-STD-001-1998)
- Today: Implemented by federal, state and local agencies, companies, groups and other countries to develop standards

Objectives of FGDC Metadata Content Standard

- Specify information content (mandatory, mandatory conditional, and optional)
- Document four uses: availability, fitness for use, access and transfer
- Provide a common set of terminology and definitions for concepts
- Establish consistency with definitions, data element names and the information about the values for data elements

FGDC Metadata Sections

- Identification
- Data Quality
- Spatial Data
- Spatial Reference
- Entity and Attribute
- Distribution
- Metadata Reference

FGDC Metadata Content Standard Quality Reporting Measures

• Attribute Accuracy (quantitative attribute)

Accuracy and assessment
Attribute accuracy value
Attribute accuracy explanation

- Logical Consistency
- Completeness
- Positional Accuracy

Horizontal Vertical

• Source Information (lineage)

EPA Locational Data Policy

- Established principles for collecting and documenting latitude/longitude coordinates for facilities, sites, monitoring and observation points regulated or tracked under EPA's jurisdiction
- Latitude/longitude preferred coordinate system for identifying location
- Documents latitude, longitude, method description, accuracy

Geospatial Metadata Tools

• GIS metadata tool surveys are available on the web:

http://www.fgdc.gov/metadata/toollist/metatools797.html

http://badger.state.wi.us/agencies/wlib/sco/metatool/mtools.htm

http://intranet.epa.gov/gis/twg/meta7.htm

EPA's WWW Metadata Tool/Repository

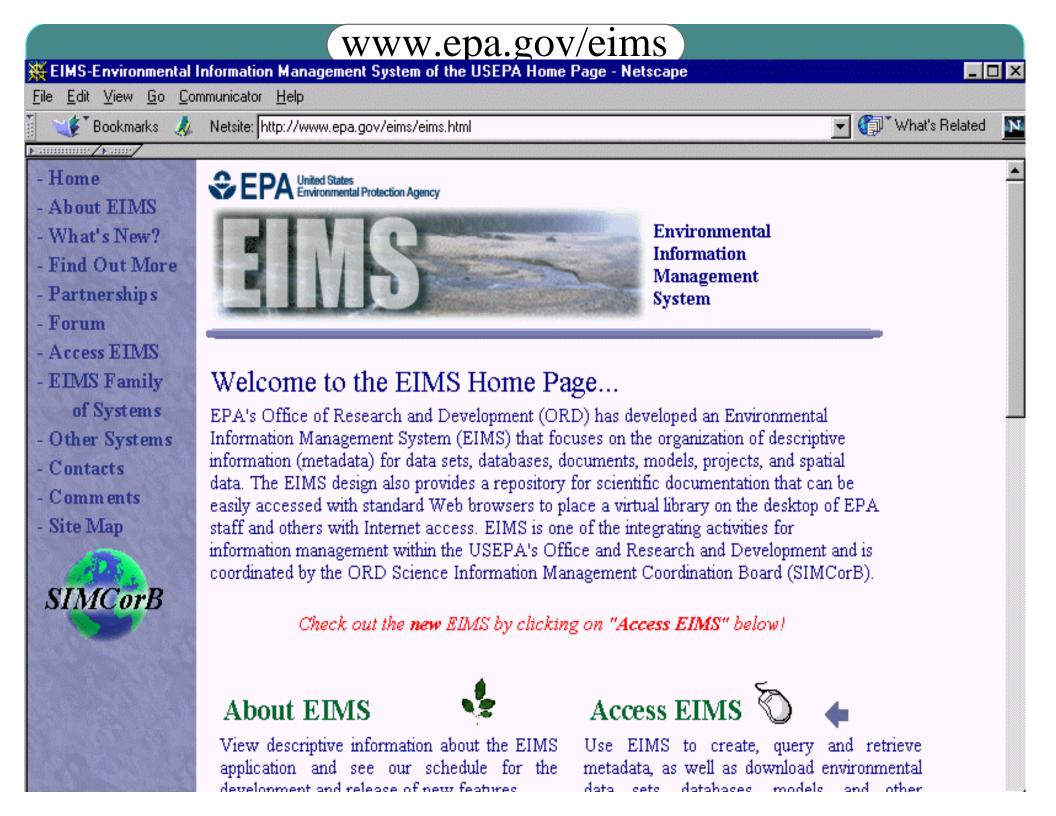
- OEI authorized the use of the Environmental Information Management System (EIMS) as the Agency's cataloguing system for level 2 metadata (level 1 is GILS; level 3 is EDR)
- EIMS is the "NSDI Clearinghouse" for EPA
- EIMS supports the full FGDC geospatial metadata model

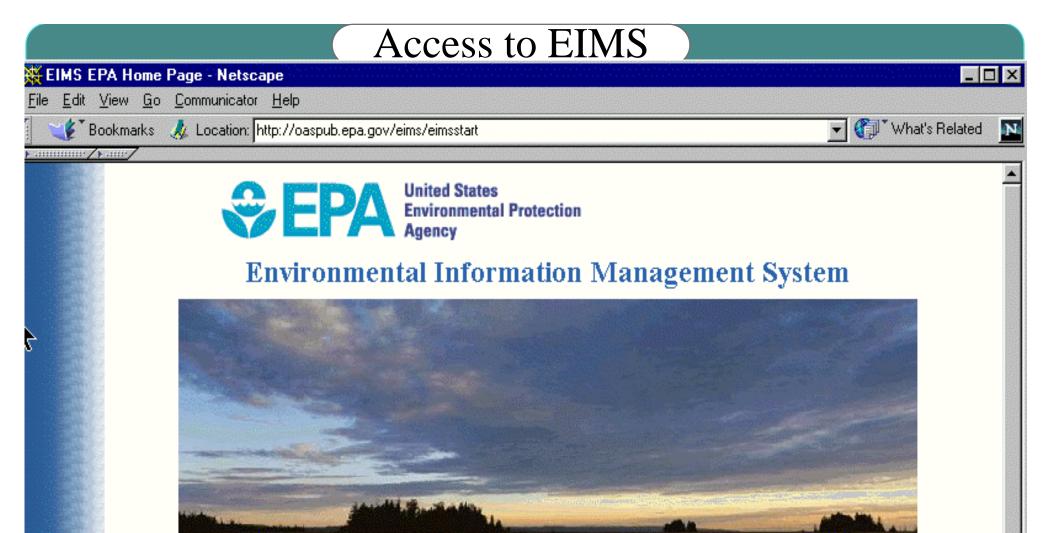
The Environmental Information Management System (EIMS)

- Provides web-enabled access to the Agency's database of metadata and data http://www.epa.gov/eims
- Is available to the public with controlled access to restricted or draft material
- Is being integrated with existing Agency systems (e.g. Envirofacts, EDR, etc.)

Benefits to EIMS Users

- Makes it easier to document data (easy-to-use interface)
- Simplifies and improves access to relevant data and information via WWW browser. Easy tool to locate, browse/view and manage metadata
- Provides sufficient description to assess usability
- Maintains a consistent inventory
- Can be searched by anyone with a web browser
- Can be searched by the NSDI Gateways





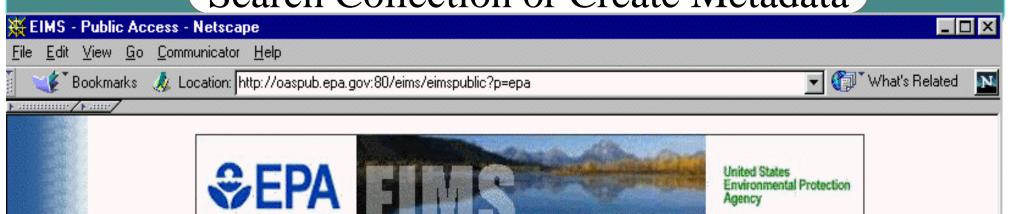


Enter EIMS by clicking on this button.

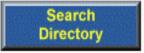
EPA Restricted Access EIMS entry point for authorized EPA staff and others. A valid USEPA TSSMS account and EIMS access code are required. All other users should enter EIMS by clicking on "Enter EIMS".



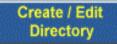
Search Collection or Create Metadata



Environmental Information Management System



Search for projects, data sets, models, documents and other items of interest.



Create new directory entries for projects, data sets, models, documents and other items of interest, OR, Edit directory entries for which you are the owner.



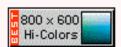
EPA-Home | EIMS-Home | Search | Comments | EIMS-Administrator | Help

http://www.epa.gow/eims/, last updated October 20, 1999

This web site was developed for a screen resolution of 800 x 600 or higher and requires javascript and cookies to be enabled.

EIMS is optimized for Netscape 4.0 or later - click here to download.

Click here to download the latest version of Adobe Acrobat Reader.



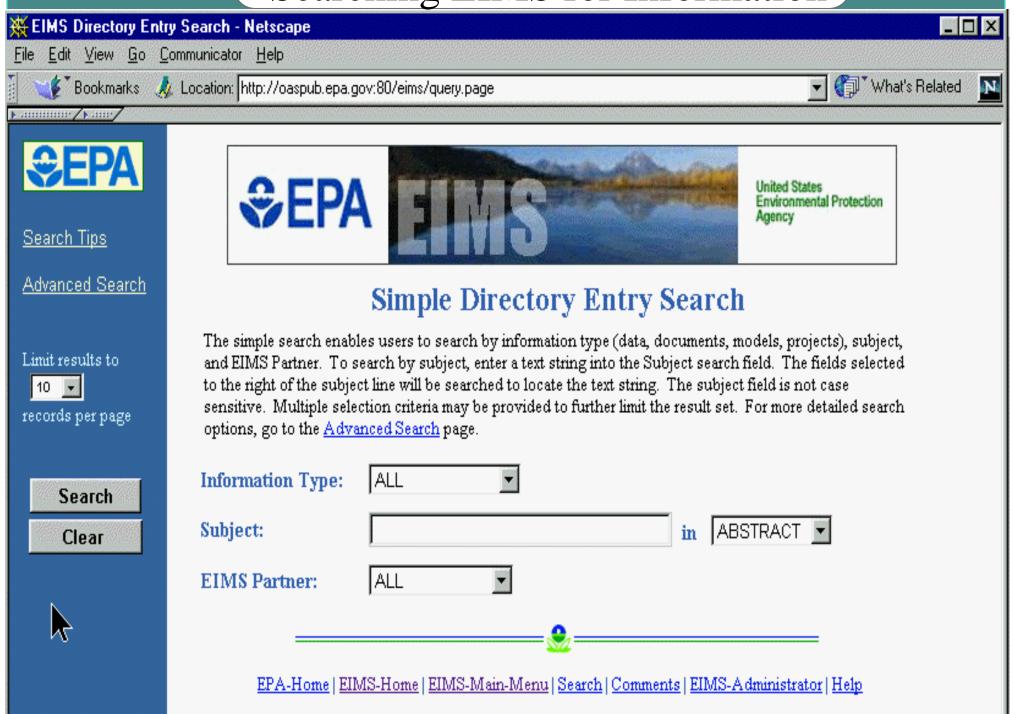








Searching EIMS for Information



http://www.epa.gow/eims/, last updated October 20, 1999

Search Results

🖁 Search Results Frame - Netscape

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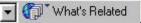


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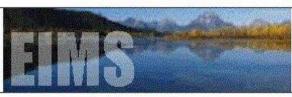
Edit View Go Communicator Help



Bookmarks 🏒 Location: http://www.epa.gov:6714/eimsepa/owa/QSEARCH.ResultsFrame







Environmental Protection

SEARCH RESULTS

17 Entries matching

TYPE

TITLE

- DOCUMENT KILLARNEY LAKE, COEUR D'ALENE RIVER SYSTEM IDAHO PILOT SAMPLING FOR HEAVY METALS IN FISH FLESH, 1990
 - This study sampled largemouth bass, northern pike, black crappie, brown bullhead, and yellow perch from Killarney Lake, a lateral lake on the Coeur dAlene River in northern Idaho (17010301, 17010303) and analyzed edible flesh for concentrations of zinc, lead, ...
- DOCUMENT Advances in dietary exposure research at the United States
 - The United States Environmental Protection Agency-National Exposure Research Laboratory's (USEPA-NERL) dietary exposure research program investigates the role of diet, including drinking water, as a potential pathway of human exposure to environmental contamina...
- 15) DOCUMENT South Florida Ecosystem Assessment Project: Final Technical Report Phase I
 - The South Florida Ecosystem Assessment Project is an innovative, large-scale monitoring and assessment program designed to measure current and changing conditions of ecological resources in South Florida using an integrated holistic approach. Using the United...
- 16) MODEL Mercury Emissions Model (Lamp Hg)
 - The Mercury Emissions Model is an electronic analytical tool designed to estimate mercury emissions from the disposal of fluorescent lamps under alternative disposal scenarios....
- 17) PROJECT South Florida Ecosystem Assessment Project
 - The South Florida Ecosystem Assessment Project is an innovative, large-scale monitoring and assessment program designed to measure current and changing conditions of ecological resources in South Florida using an integrated holistic approach. Using the United...

First 5

Previous 5

Simple Description



SEARCH

Search Results
New Search

SUMMARY INFORMATION

Summary (1)
Contacts (1)
Related Entries (0)
Administrative Details (1)

DETAILED INFORMATION

Objec ves (0)

Methods (0)

Quality Assurance (0)

Keywords (0)

Geographic Area (1)

Data Elements (0)

References (0)

Acronyms (0)

DOWNLOAD INFORMATION

Access Info/Policy (1)
Downloads (0)



SUMMARY

Entry ID: 10910 Version: 1.0

Title: SAMPLE DATA FOR MODELING SOIL MOISTURE IN THE PATUXENT WATERSHED

Abstract: This collection of datasets accompanys the HSPF comprehensive guide for estimating soil moisture levels in the Patuxent watershed. The datasets include both GIS data layers and scientific data including: Land Use, watershed boundaries, rivers/streams, cloud cover, and evaporation. The GIS data are in Shape file format and in an Albers projection. The scientific data sets are ascii data files.

Citation:

Comments:



EPA-Home | EIMS-Home | EIMS-Main-Menu | Search | Comments | EIMS-Administrator | Help

http://hill.nccr.epa.gow/eimsdev1/, last updated. October 20, 1999.

Levels of Metadata



SEARCH

Search Results

New Search

SUMMARY INFORMATION

Summary (1)

Contacts (1)

Related Entries (1)

Administrative Details (1)

DETAILED INFORMATION

Objectives (0)

Methods (0)

Quality Assurance (0)

Keywords (0)

Geographic Area (1)

Data Elements (0)

References (0)

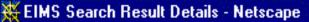
Acronyms (0)

DOWNLOAD INFORMATION

Access Info/Policy (1)

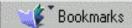
Downloads (0)

Geographic Description (Current Version)





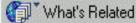
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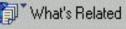


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🌠 Bookmarks 💹 Location: http://oaspub.epa.gov:80/eims/grydetail.page?dsid=4588









SEARCH

Search Results New Search

SUMMARY INFORMATION

Summary (1) Contacts (1)

Related Entries (1)

Administrative Details (1)

DETAILED INFORMATION

Objectives (0) Methods (0)

Quality Assurance (0)

Keywords (0)

Geographic Area (1)

Data Elements (0)

References (0)

Acronyms (0)

DOWNLOAD INFORMATION

Access Info/Policy (1)

Downloads (0)





United States Environmental Protection Agency

GEOGRAPHIC AREA

Entry ID: 4588 Version: 001

Title: A CLIMATOLOGY OF WATER BUDGET VARIABLES FOR THE NORTHEAST UNITED STATES

Bounding Coordinates (Latitude and Longitude measured in decimal degrees)

Northern Boundary: Southern Boundary: 38 Eastern Boundary: Western Boundary:

Geopolitical Areas

State: DE County: Municipality:

State: MD Municipality: County:

State: PA Municipality: County:

State: WV County: Municipality:

Watershed Areas

Hydrologic Unit Code:

GEOGRAPHIC AREA

Entry ID: 10910 Version: 1.0

Title: SAMPLE DATA FOR MODELING SOIL MOISTURE IN THE PATUXENT WATERSHED



Bounding Coordinates (Latitude and Longitude measured in decimal degrees)

Northern Boundary: Southern Boundary: Eastern Boundary: Western Boundary:

Geopolitical Areas

State: MD County: ANNE ARUNDEL Municipality:

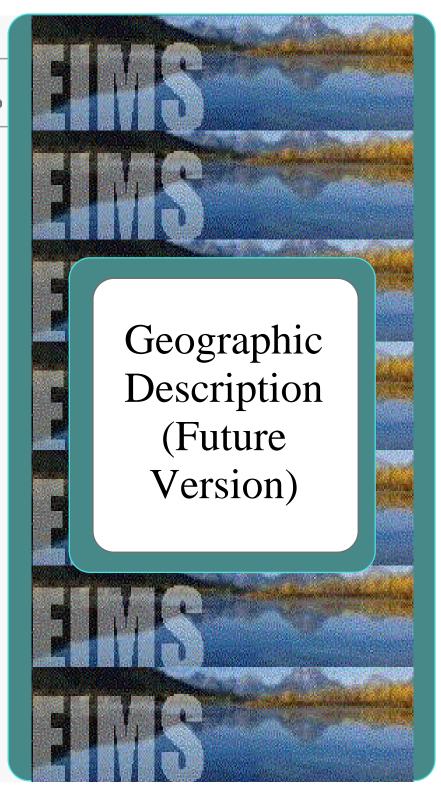
Watershed Areas

Hydrologic Unit Code: 02060006

Region: MID-ATLANTIC

Subregion: UPPER CHESAPEAKE
Accounting Unit: UPPER CHESAPEAKE

Catalog Unit: PATUXENT

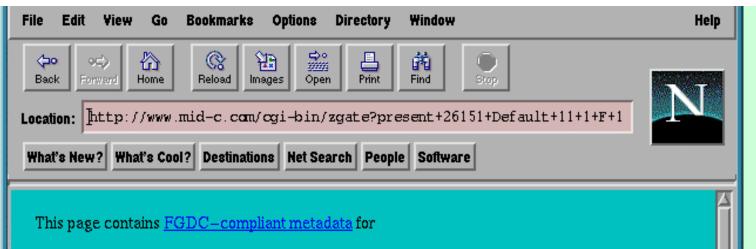


Creating Metadata Records in EIMS

- Option 1: Autoload existing FGDC-compliant geospatial metadata (accepts HTML format)
- Option 2: Manually enter metadata in your web browser
- Option 3: Provide an export of existing database (i.e. Oracle or Access databases, even spreadsheets) for loading into EIMS

Creating Metadata Using Web Forms

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	icator <u>H</u> elp tion: http://oaspub.epa.gov:80/eims/epa	a/direnav.direEdit	▼ 🎁 What's Related
ŞEPA	Dir Entry Dat	a Elements	
NAVIGATION Main Menu	Enter values for new Dir Entry	Data Elements record	
Edit Another Entry Create Directory Entry	Element*:		
Editing Entry #8136 SUMMARY INFORMATION Summary	Element Desc*:		
Contacts (3) Related Entries (0)	Data Type*:	CHARACTER 💌	
DETAILED INFORMATION Objectives (0)	Max Value Length*:		
Methods (0) Quality Assurance	Decimal Digits:		
<u>Time Frame</u> <u>Geographic Area (0)</u>	Low Range:		
Keywords (0) Data Elements (0)	High Range:		
References (0) Acronyms (0)	Low Range Reason:		
Access Info/Policy Downloads (1)			F1
Administrative Details	High Range Reason:		
NEXT STEPS Project Details			
ADMINISTRATION			
Administration Menu	Reported Max Value Leng	th:	



Cape St. Marys

Metadata:

- Identification Information
- Data Quality Information
- Spatial Reference Information
- Distribution Information
- Metadata Reference Information

Example NSDI-FGDC Report

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Identification Information:

Citation:

Citation Information:

Originator: South Hydrographic Office

Publication Date: 19970219

Publication_Time: 000000

Title: Cape St. Marys

Online_Linkage:

<a href="mailto:khttp://www.mid-c.com">khttp://www.mid-c.com</a>

Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 19970219
```

Time of Day: 000000

EIMS QA Controls

- Every collection (i.e. Office or program) must have a data librarian responsible for reviewing record content.
- All records are reviewed prior to public release.
- A record can retain a status of "incomplete" or "pending review" for as long as needed to complete the record.

QA Review

- Federal Geographic Data Committee Metadata Content Standards
- Authorities and Guidance
- Related Standards Infrastructure
- EIMS The EPA's Metadata Repository